

A scenic view of Haleakalā National Park. In the foreground, a wire fence runs across the frame. The middle ground is filled with dense, green vegetation. In the background, there are rolling hills and mountains under a clear sky. The text "Invasive Plants of Haleakalā National Park" is overlaid on the image in a red, stylized font.

Invasive Plants

of

Haleakalā National Park

Bromus tectorum “Cheatgrass”



Image Sources:

<http://tncweeds.ucdavis.edu/esadocs/bromtect.html>,

<http://www.invasive.org/browse/detail.cfm?imgnum=1459086>

photographer Steve Dewey

Bromus tectorum Native to Europe **Family:** Poaceae **Common Name:** “Cheatgrass”

Park Location: Crater

Elevation: 4000 to 10,000 feet

Introduction to Maui: 1880's

Manual Control Methods: Pulling and bagging cheatgrass is the best available method of control. Plants should be double bagged and disposed of in garbage cans at the cabins or parking lots. Do not burn cheat grass in camp areas or fireplaces at cabins. Cheatgrass is resistant to fire and burning it can help germinate seeds.

Description: Cheatgrass is a wispy, annual grass that grows in disturbed areas, along trails, and in horse pastures. It grows up to 30 inches tall and has flat blades that are covered in soft hair. Plants appear in the spring after a wet winter. Cheatgrass seedheads are drooping, branched up to 2-6 inches in length, and appear in April.

Oenothera stricta “Evening Primrose”



Image Source:
Forest and Kim Starr www.hear.org

Oenothera stricta Native to Chile and Argentina **Family:** Onagraceae **Common Name:** “Evening Primrose” “Chilean Evening Primrose”

Park Location: Open areas and along roads and trails in the crater district

Elevation: up to 10,000 ft

Description: A common weed in the crater, it reaches between one and two feet in height or can grow lying flat. Its leaves are alternate and narrow toothed in a feather-like fashion. Its flowers are canary yellow up to two inches in diameter.

Manual Control Methods: Pulling is a good way of controlling evening primrose, however it is widespread in the Crater and not a high priority for control.

Trifolium arvense “Rabbits-foot Clover”



Image Source: <http://www.ct-botanical-society.org/galleries/trifoliumarvense.html>, Forest and Kim Starr www.hear.org

Trifolium arvense Native to Eurasia **Family:** Fabaceae **Common Name:** “Rabbit’s-foot Clover”

Park Location: Crater, primarily in disturbed areas and trails.

Elevation: Above 4000 ft.

Description: Rabbit-foot clover is upright with soft hairy leaves. It grows up to one foot tall with one to several branched stems. Leaves are compound with three oblong leaflets about an inch long. The flowers are purple-whitish, about an inch long, with blooms throughout the summer.

Manual Control Methods:

Pulling is an effective method of controlling rabbit-foot clover. Care should be taken to remove as much of the root system as possible. After pulling seed heads and flowers should be double bagged and disposed. Remove any seeds from clothing and boots before hiking out of the Crater.

Bidens alba “Beggar’s tick”



Image Source: Forest and
Kim Starr www.hear.org



Bidens alba Native to Florida, South America, and the West Indies **Family:** Asteraceae
Common Name: “Beggar’s tick” “Spanish Needles”

Park Location: Front Country, Crater

Elevation: 6800 – 7500 ft.

Description: “Beggar’s tick” is a perennial weed that grows in disturbed areas. It is an upright, branched shrub that can reach three feet in height. The leaves are single or compound with 1 to 3 leaflets up to six inches long. Flowers are white and yellow and look much like a daisy. Please be aware that seeds attach easily to boots and clothing and are easily spread in this way.

Manual Control Methods: Pulling when not in seed is the best method of control. However, if controlling when seeds are present, bag seed heads and dispose of in proper fashion. Make certain no seeds cling to your clothing when you leave control sites.

Heterotheca grandiflora “Telegraph Plant”



Image Source: <http://www.calflora.net/bloomingplants/telegraphweed.html>, Forest and Kim Starr www.hear.org

Heterotheca grandiflora Native to California, Arizona, and Baja California, Mexico **Family:** Asteraceae

Common Name: “Telegraph Plant”

Park Location: Crater, West Kaupō Gap, West Slope.

Elevation: 4000-9100 ft.

Description: The telegraph plant is a tall (1 to 6 feet), upright, plant with multiple branching stems. Leaves are alternate, sticky and hairy with slightly toothed margins. It flowers throughout the summer; flowers are yellow and form in flat-topped clusters. This plant emits distinctive camphor-like odor when crushed. This native of California is found throughout the Crater growing in cinder and disturbed flat areas.

Manual Control Methods: Pulling is an effective means of controlling telegraph plant. The roots are deep and extensive, be certain to remove as much of the root system as possible because the telegraph plant can re-grow from root fragments. If possible, bag and dispose of seed heads.

Rubus Argutus “Florida Blackberry”



Image Source: Forest and Kim Starr www.hear.org

Rubus Argutus Native to Central and Eastern United States **Family:** Rosaceae

Common Name: “Prickly Florida Blackberry” “Florida Blackberry”

Park Location: Crater, Palikū pasture, Kalapawili, Kaupō, Kipahulu Valley, West Slope.

Elevation: 4000-7600 ft.

Description: Florida blackberry is an upright shrub that reaches six feet in height. Stems are stiff, arched and covered in prickles about $\frac{1}{4}$ in length. The leaves are smooth on the upper surface and hairy on the underside, compound with 3-5 pinnate leaflets that have serrated margins. The prickly Florida blackberry has black fruits and white flowers. It is found in moist areas in the Crater, especially the Palikū horse pasture. It spreads by rhizome and aerial runner branches and by bird-dispersed seed.

Manual Control Methods: There are currently no effective manual control methods for Florida Blackberry. It is controlled by using herbicide (Garlon 4 and Garlon 3A), using either a cut stump or basal thin-line technique.

Cirsium vulgare “Bull Thistle”

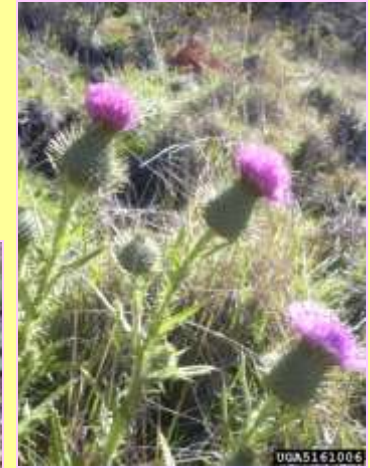


Image Source: www.invasive.org; Steve Dewey, Utah State University, Bugwood.org, Forest & Kim Starr, United States Geological Survey, Bugwood.org, Michael Shepard, USDA Forest Service, Bugwood.org

Cirsium vulgare Native to Eurasia **Family:** Asteraceae **Common Name:** “Bull Thistle”

Park Location: Crater, Kaupō Gap, Lower Kipahulu Valley, West Slope

Elevation: 5500 ft.

Description: Bull Thistle is an upright plant 2-3 feet tall with many spreading branches. It forms a rosette in its first year, and the upright form in its second year. Its leaves are spiny with a hairy underside, and lobed. Flowers are tapered, covered with spines and pinkish-purple in color. Bull thistle grows in disturbed areas in Kaupō Gap to elevations of 5500 feet.

Manual Control Methods: Dig or pull using a pick or similar implement. When handling Bull Thistle, wear thick leather gloves to avoid injury, and always bag and dispose of seed heads and flowers.

Senecio madagascariensis “Fireweed”



Senecio madagascariensis Native to Madagascar and Southern Africa **Family:** Asteraceae **Common Name:** “Fireweed”

Park Location: Front Country, between 8500 Eucalyptus Grove and RM Baseyard.

Elevation: 6800-8500 ft.

Description: An annual or short lived perennial herb, 10-70 cm. high. Leaves bright green, alternate, narrow and fleshy, 2 to 6 cm. long, the broader leaf bases clasped around the stem; margins usually entire, but may be serrate or lobed. Flowers bright yellow, with 13 petals. Seeds brown, cylindrical, 1.5 to 3 mm. long; covered with short white hairs and crowned by a pappus of silky hairs. Contains toxic alkaloids that cause liver damage, poisoning cattle and other livestock.

Manual Control Methods: Hand pulling is an effective method of removal, make sure to pull up all remaining roots if the plant breaks off. Bag the whole plant for disposal.

Cortaderia jubata “Pampas Grass”



Cortaderia jubata Native to South America. **Family:** Poaceae **Common Name:** “Pampas Grass”

Park Location: Crater, Front Country.

Elevation: 6800-8840 ft.

Description: Robust grass up to 3 m. diameter, flowering stalks up to 3 m. high. Leaves are bright green, up to 1500 mm. long and 12 mm. wide, reflexed, blade flat to only slightly v-shaped in cross-section, margins rough. Inflorescence is yellow or purple, loosely branching, feathery, 600-800 mm long. Blooms August-October. Seeds fall from old inflorescences which are brown or yellow. In the mid-80's a patch of Pampas Grass was noticed flowering behind Sunrise Market in Kula, and seedlings were spotted along Crater Road. It was thought at the time that Hawai'i had only female plants of the species Cortaderia selloana, which was thought to be benign, but later the plants along Crater Road were identified as Cortaderia jubata, a species that can reproduce without both male and female plants present, and is an aggressive invader in California. Later, a plant was spotted in the Crater and this area has been closely monitored ever since. Due to a population explosion in California, Australia, and New Zealand after male C. selloana plants were introduced, this other species of pampas grass may become a threat.

Manual Control Methods: If flowering or seeding, cut and bag heads. Seedlings may be pulled and bagged. Please notify vegetation management of the location, if any plants are found. Large plants are spot sprayed with Round-Up.

Ulex europaeus “Gorse”



Image Source:
tncweeds.ucdavis.edu/photos/uleeu10.jpg,
Forest and Kim Starr www.hear.org,
calphotos.berkeley.edu/cgi/img



Ulex europaeus Native to Western Europe **Family:** Fabaceae **Common Name:** “Gorse”

Park Location: Front Country

Elevation in Park: 6800-7300 ft.

Description: Evergreen shrub, 1-2 m. tall, green stems with leaves modified into 1-3 cm. spines. Seedlings produce true leaves which are trifoliate, young leaves are rounded and hairy, older leaves are waxy. Flowers are yellow, 1-2cm long. Fruits are hairy, dark brown pods with 2-3 seeds. Gorse can produce 14 million seeds/acre/year that can persist for up to 50 years. Gorse is a fire-climax plant, it readily catches fire but re-grows from the roots after the fire; the seeds are also adapted to germinate after scorching.

Manual Control Methods: There are no effective manual control methods at this time.

Clidemia hirta “Koster’s Curse”



Clidemia hirta Native to tropical America **Family:** Melastomataceae **Common Name:** “Koster’s Curse”

Park Location: Kipahulu Valley

Elevation in Park: 200-4280 ft.

Description: Shrubs .5-3 m. tall, young branches covered in coarse hairs. Leaves ovate, 5-16 cm long, 3-8 cm wide, with 5 longitudinal veins, upper surface sparsely hairy, lower surface bristly, with ciliate margins. Fruit a dark blue berry, 6-9 mm. long. Flower small, white, with 5 petals.

Manual Control Methods: Small plants may be hand-pulled. Hang plants in trees to keep them from re-rooting in the soil.

Hedychium gardnerianum “Kahili Ginger”



Hedychium gardnerianum Native to the Himalayas **Family:** Zingiberaceae **Common Name:** “Kahili Ginger”

Park Location: Kipahulu Valley

Elevation in Park: 700-4000

Description: Herbs up to 2 m. tall, spreading by rhizomes. Leaves ovate-elliptic, 20-45 cm. long, 10-15 cm. wide, glabrous, petioles 1-2 cm. long. Inflorescences upright, with bright yellow-orange bracts, yellow corolla, and bright red-orange stamens. Fruits are capsules containing red seeds.

Manual Control Methods: Hand-pull small plants. Make sure to pull up all pieces of root, break off the stem at the base of the rhizome, and bag the root. Large plants are treated with herbicide.

Tibouchina herbacea



Image Source: Forest and Kim Starr, www.hear.org



Tibouchina herbacea Native to South America **Family:** Melastomataceae

Park Location: Kipahulu Valley

Elevation in Park: 600-5500 ft.

Description: Herbs or subshrubs up to 1 m. tall. Young branches nearly square, densely covered in hairs. Leaves ovate to oblong-ovate, 3-7.5 cm. long, 1.3-3.5 cm. wide, with 5-7 parallel veins. Both surfaces of the leaf are covered in hairs, pale green. Flowers pink to purple, with 4 petals, 6-11 mm. long.

Manual Control Methods: Pull up and hang in trees to keep it from re-rooting.

Angiopteris evecta “Mule’s Foot Fern”



Image Source: Forest and
Kim Starr, www.hear.org

Angiopteris evecta Native to Malaysia, Polynesia, and Old World Tropics **Family:** Marattiaceae **Common Name:** “Mule’s Foot Fern”

Park Location: Kipahulu Valley

Elevation in Park: 2200-3960 ft.

Description: Large fern with huge, spreading fronds, up to 7 m. long and 3 m. wide. Fronds have scattered scales at base. 2 large, fleshy appendages resembling mules hooves at the base of each stem. Fronds are bipinnate. Primary sections of each frond are in 6-15 pairs, up to 150 cm long, bases swollen at the connection with the main stem. Pinnules are up to 25 cm long, dark green, with sporangia lining the edge, veins parallel, forked. The leaves have a pleasant odor when crushed, much like that of Maile (*Alyxia oliviformis*).

Manual Control Methods: Very small plants can be pulled. Older plants are cut and treated with herbicide.

Sphaeropteris cooperi “Australian Tree Fern”



Image Source: Hale/Images, Forest and Kim Starr, www.hear.org



Sphaeropteris cooperi Native to Northern Australia **Family:** Cyatheaceae **Common Name:** “Australian Tree Fern”

Park Location: Kipahulu Valley, Kukui`ula

Elevation in Park:

Description: Tall tree fern, up to 4 m. tall, 7-12 cm. diameter. Fronds up to 4 m. long. White, papery scales, and red-brown scales with spiny margins at base. It is distinguished from native tree ferns by the tall, narrow, trunk, and by two kinds of scales at the base of the stipes. Native tree ferns have hairs, but no scales.

Manual Control Methods: Wear eye protection to protect from the scales, which have a spiny margin. Remove all fronds with a machete and bag fertile fronds if plant is an isolated individual. Chop down trunk with a machete, then chop up the apical meristem. Be sure the apical meristem is finely diced up to prevent re-growth. Stack fronds to lessen dispersal of spores. Small plants less than 0.5m tall can be dug up or pulled, then hung up to dry.

Eucalyptus spp.



Image Source: Forest and Kim Starr, www.hear.org

Eucalyptus amygdalina, Eucalptus globulus, Eucalyptus robusta Native to Australia **Family:** Myrtaceae **Common Name:** “Black Peppermint” “Blue Gum” “Swamp Mahogany”

Park Location: Front Country at Hosmer’s Grove, 8500 ft. grove.

Park Elevation: 6800-9700 ft.

Description: Trees 15-70 m. tall. Bark varies by species from white to cream and shredding, to reddish brown and spongy. Adult leaves alternate, lanceolate, sometimes with a hooked tip. Flowers in an axillary umbel. Fruit is a capsule.

Manual Control Methods: Small plants may be pulled and hung in trees to dry. Larger plants are treated with herbicide using cut-stump, basal bark, or girdle methods.

Schinus terebinthifolius “Christmas Berry”



Amy Ferriter, South Florida
Water Management District,
Bugwood.org



Schinus terebinthifolius Native to Brazil **Family:** Anacardiaceae **Common Name:** “Christmas Berry” “Wilelaiki”
“Brazilian Pepper Tree”

Park Location: Kaupō Gap, lower Kipahulu Valley, Ohe`o

Park Elevation: 0-5100 ft.

Description: Shrubs or trees 1-7 m. tall. Leaves pinnately compound, with 2-6 pairs of opposite leaflets, leaflets are elliptic, 1.5-7.5 cm. long, .7-3.2 cm wide, terminal leaflet longest. Leaves are glabrous, with entire to serrate margins, and a winged rachis. Flowers are white. Fruit is a red drupe, eaten and dispersed by non-native birds.

Manual Control Methods: Extreme care should be exercised if plants are to be pulled up, the entire root system must be removed. As little as 1/4 inch of the root system may resprout. Because of this, the most effective method is basal bark or cut-stump treatment with herbicide.